ABSTRACT

Background and Objectives: A well known fact about acute myocardial infarction is its association with leukocytosis. The differential analysis of white blood cells gives additional benefit of assessing ACS severity by clinical outcomes. Obtaining peripheral leukocyte count is a cheap and widely available mode. We wanted to evaluating the role of NLR in determining the prognosis of and risk of major post-STEMI adverse events. NLR is A DYNAMIC VALUE depending on the progression of critical illness. It is not clear when NLR values should be calculated to offer the best prognostic value for STEMI patients. Therefore, our second objective was to identify the predictive value of NLR calculated at different time points in patients presenting with STEMI.

Methods:55 patients with STEMI were included in the study. Baseline demographic data were obtained like Age and Gender, Cardiovascular diseases risk factors (history of diabetes mellitus, hypertension, hyperlipidaemia, cigarette smoking, and alcohol drinking) and Laboratory data (triglyceride, fasting blood sugar (FBS), urea, creatinine, WBC count, platelet count, MCV (mean corpuscular volume), and NLR were entered into a checklist. Correlation of NLR, neutrophil and lymphocyte at different point of time and different complications related to MI were evaluated.

Results: Mean age of the patients was 52.08 years. About 41.4% had hypertension, 18.9% had hyperlipidemia(15 subjects) , 11.4% were smokers, 9% had history of alcohol drinking, 13.6% had history of cardiovascular diseases, and 20% had history of diabetes mellitus. The 24 hr high neutrophil group had lowest LVEF ($P<0.05$) while there was no significant difference in the length of hospital stay between the high and low NLR group. Hypotension and arrhythmia was observed significantly less frequently in low NLR (24.35% patients) & (5.65%) than high NLR group (43.91%, patients) & (20.00%) respectively but with no statistical significance .

Interpretation and conclusion: Higher NLR and neutrophil count was also associated with higher incidence of failure and arrhythmia following STEMI. NLR assessments which are routinely performed and universally available may be considered in clinical practice for prediction of post MI complications. In patients with STEMI when combined with standardized risk score such an association might provide an additional prognostic value for risk stratification.

Key words :NLR , Post MI complication, Leucocytosis, LVEF, Arrhythmias.